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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION III  
841 Chestnut Building  
Philadelphia, Pennsylvania 19107-4431

FEB 15 1994

\$ 25,755,975

**SUBJECT:** Approval of a Request for Additional Funds  
and Exemption from the \$2 Million Statutory Limit  
Avtex Fibers Site  
Warren County, Front Royal, Virginia

**FROM:** Stanley L. Laskowski *[Signature]*  
Acting Regional Administrator (3RA00)

**TO:** Elliot Laws, Assistant Administrator  
Office of Solid Waste and Emergency Response (OS-100)

**THRU:** Henry L. Longest II, Director  
Office of Emergency and Remedial Response (OS-200)

**ATTN:** Deborah Y. Dietrich, Director  
Emergency Response Division (5202G)

The attached Action Memorandum pertains to the Avtex Fibers Site located in Front Royal, Warren County, Virginia. Because of the size, complexity, and ever-changing conditions of the Avtex Fibers Site, the Region has approved the use of additional funds for continued response actions necessary to protect the public health and the environment. The funds will be used to continue control and stabilization activities designed to eliminate potential exposure to the surrounding community.

Region III has approved the funding request as set forth in Directive 9360.2-04 (February 24, 1992), which gives the Regional Administrator authority to approve exemptions to the \$2 million statutory limit on Removal Actions at sites proposed and/or listed on the CERCLA National Priorities List (NPL).

On September 26, 1989, the OSC performed a preliminary assessment of the Site in accordance with the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). This assessment confirmed the existence of a threat to the public health, welfare and the environment due to the release of polychlorinated biphenyls (PCBs), the threat of fire and explosion, and concerns with the integrity and management practices of the bulk storage tanks and process lines used to contain and transfer hazardous substances at the Site.

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Because the conditions at the Avtex Fibers Site meet the criteria set forth in Section 300.414(b)(ii) and 300.415 (b)(2)(iii) of the NCP, 40 C.F.R. § 300.414 and 40 C.F.R. § 300.415 and pursuant to EPA Delegation of Authority 14-2-B (giving the Regional Administrator authority to approve continued CERCLA Removal Actions beyond the obligation of \$2 million pursuant to the consistency waiver); and because the Region finds that conditions at the Site as described above constitute a public health and environmental emergency; and no other person or agency with authority and capability to respond to the emergency will do so in a timely manner, Region III has approved the use of additional CERCLA funds in the amount of \$5,000,000. This allocation will enable Region III to transport and properly dispose of the materials left in the tanks and moats on the Site. The new Project Ceiling is \$25,755,975 of which 23,526,470 is Extramural Costs.

Attachment: Request for Additional Funds

AR104454



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION III

841 Chestnut Building  
Philadelphia, Pennsylvania 19107-4431

FEB 15 1994

**SUBJECT:** Request for Additional Funds and Exemption  
from the \$2 Million Statutory Limit  
Avtex Fibers Site  
Warren County, Front Royal, Virginia

**FROM:** George W. English, On-Scene Coordinator  
Eastern Response Section (3HW31)

*George W. English*  
for G. ENGLISH

**TO:** Stanley L. Laskowski  
Acting Regional Administrator (3RA00)

**THRU:** Abraham Ferdas, Associate Division Director  
for Superfund Programs (3HW02)

*Abraham Ferdas*

**I. ISSUE**

The purpose of this Action Memorandum is to request additional funds necessary to continue response actions at the Avtex Fibers Site in Front Royal, Warren County, Virginia. These funds are necessary to continue the mitigation of direct contact threats, address physical hazards that may cause a release of hazardous substances, and coordinate and facilitate bankruptcy trustee (the Trustee) related activities. This work will be performed pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended (CERCLA), and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) criteria for Removal Actions described in Section 300.414 and Section 300.415 of the NCP, 40 C.F.R. §300.414. A funding increase of \$5,000,000 is required to complete the Removal Actions planned at the Site. These activities will raise the Project Ceiling at the Site to \$25,755,975.

**II. BACKGROUND**

**A. Site Description**

The Avtex Fibers Site originally manufactured rayon and polypropylene fibers. The Site covers 440 acres and is located in northwestern Virginia, along the boundary of the Blue Ridge mountains and the northern entrance of Skyline Drive in the Shenandoah National Park. The Site is adjacent to the South Fork of the Shenandoah River. Conditions at the Avtex fibers Site are more stable than at the time of the last funding request due to the combined efforts of the Removal, Enforcement, and Remedial programs. However, there continue to be existing and potential threats at the Site which could result in emergency conditions if not addressed in a timely manner.

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On September 26, 1989, the OSC performed a preliminary assessment of the Site in accordance with the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). This assessment confirmed the existence of a threat to public health, welfare, and the environment due to the release of polychlorinated biphenyls (PCBs), the threat of fire and explosion, and concerns associated with the integrity and management practices of the bulk storage tanks and process lines used to contain or transfer hazardous substances at the Site. In response to both verbal notice and an October 31, 1989 Unilateral Order, Avtex Fibers began cleanup actions.

At that time, a concurrent enforcement action initiated by the Commonwealth of Virginia resulted in the revocation of the Avtex Fibers NPDES discharge permit effective on November 10, 1989. Predicated on the permit revocation, Avtex Fibers ceased operations at the facility and at the same time informed the Environmental Protection Agency (EPA) that it would not comply with the Unilateral Order. On November 11, 1989, Avtex Fibers closed and abandoned the facility. It was apparent that Avtex Fibers would not address the immediate concerns at the Site, prompting the OSC to immediately utilize his \$50,000 authority pursuant to Delegation of Authority 14-1-A to undertake emergency stabilization actions at the abandoned Site.

An Action Memorandum was submitted and approved by the Region on November 14, 1989, increasing the Project Ceiling to \$1,914,095. A Request for Additional Funding and Exemption from the \$2 Million Dollar/One-Year Statutory limits for a Removal Action was submitted to the Office of Solid Waste and Emergency Response (OSWER) on January 5, 1990, and approved on February 2, 1990, increasing the Project Ceiling to \$9,229,095. On August 20, 1990, a second Request for Additional Funds and Statutory Exemption was submitted to OSWER and approved on October 20, 1990, increasing the Project Ceiling to \$15,444,325. Another Request for Additional Funds and Statutory Exemption was submitted to OSWER on October 18, 1991, and was approved on November 22, 1991, now increasing the Project Ceiling to \$20,755,975.

To date, an estimated \$20,216,455 has been spent or obligated, leaving a balance of approximately \$539,520 which is insufficient to effectively oversee, direct, and complete the ongoing response activities at the Site.

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The following is a Summary of Work accomplished to date:

1. Site security and control
2. Maintenance of critical systems
3. Design and implementation of a low-flow wastewater treatment system to maintain freeboard in the industrial waste lagoons\*
4. Transfer and removal of 370 tons of carbon disulfide\*\*
5. Transfer and removal of 1,500 tons of concentrated sulfuric acid\*\*
6. Transfer and removal of 16 tons of pressurized chlorine gas\*\*
7. Transfer and removal of 100 tons of 50% sodium hydroxide\*\*
8. Onsite treatment of 215,000 gallons of 13% sulfuric acid solution
9. Staging and isolation of over 4,000 containers, drums, and portable tanks containing hazardous substances\*\*\*
10. Sampling of 2,755 of the staged drums, containers, and portable tanks
11. Hazard categorization and compatibility testing on over 2,686 drums and portable tanks
12. Transfer, removal, and disposal of two railcars containing dimethylamine
13. 50% completion of the intensive room-by-room inventory and removal of containers of hazardous materials from the buildings onsite
14. Onsite controlled detonation of explosive labpack chemicals
15. Labpacking and disposal of a majority of flammables, peroxide formers, and short-life chemicals in laboratories onsite
16. Isolation of approximately 1,500 laboratory containers of hazardous substances targeted for crushing
17. Oversight of responsible party activities associated with the operation of the Waste Water Treatment Plant (WWTP)\*
18. Identification of over 3,000 laboratory containers of hazardous substances targeted for labpacking and disposal
19. Completion of the decommissioning of the 22 carbon disulfide impoundments onsite
20. Oversight and direction of the Trustee-hired contractor's cleanup of a transformer PCB-oil spill\*\*\*\*
21. Excavation, transport, and disposal of over 7,000 cubic yards of PCB-contaminated soil
22. Draining, flushing, and onsite treatment of a portion of the process line and tank fluids
23. Demolition of one structurally unstable portion of the building\*\*\*
24. Treatment of 610,000 gallons of carbon disulfide contaminated water
25. Disposal of 3,000 bags of asbestos waste
26. Oversight of third-party actions concerning onsite handling of materials and equipment sold as assets by the Trustee\*\*\*\*
27. Approximately 16 compressed gas cylinders containing various gasses have been transported offsite for disposal.\*\*

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**NOTES:** \* On February 2, 1990, a Unilateral Order was issued to FMC Corporation which required it to, among other activities, operate the WWTP to maintain freeboard in the industrial waste lagoons. Since the threat of release of untreated contaminants from these waste lagoons is possible, EPA must maintain oversight of the WWTP until the permanent remediation of these lagoons is implemented.

\*\* Indicates product returned to suppliers

\*\*\* Indicates expedited remedial actions

\*\*\*\* Following the filing of Chapter 11 Bankruptcy by Avtex, the bankruptcy court appointed a Trustee to represent the estate debtor, Avtex, in all matters.

## **B. Quantities and Types of Substances Present**

Conditions at the Avtex Fibers Site are more stable than at the time of the last funding request due to the combined efforts of the Removal, Enforcement, and Remedial Programs. However, some threats that have persisted throughout the Removal Action presently exist. In some cases, the structural decay of buildings, tanks, process lines, and containers have intensified existing threats, yielded new threats, and/or new potential threats over the years. If these actual and potential threats are not dealt with in an expedited manner, the continued structural decay of the buildings, tanks, process lines, and containers will dramatically increase the potential for the release or the catastrophic release of hazardous materials into the environment.

Currently, approximately 3,000 gallons of PCB oil are contained in a tank within the polymer plant, Section 1, Building 5. In addition, over 150 drums of PCB oil and numerous transformers containing several hundred gallons of PCB oil remain onsite. The drums, and a majority of the transformers, have been staged in a secure area of the building; however, the tank is situated in an area of the building which may be structurally unstable. The collapse of process lines, overhead structures, or structural components of the building could result in the catastrophic release of the PCB oil contained within this tank.

Approximately 434,400 gallons of 50% sodium hydroxide solution are contained in five tanks located outside of the main building. The largest of these tanks contains 155,400 gallons and the smallest of these tanks contains 41,400 gallons. There is absolutely no secondary containment for any of these five tanks, which show the effects of years of decay and have become

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structurally compromised. One of these tanks has been patched as the result of minor releases at least twice since 1989. The catastrophic release of sodium hydroxide from at least one of these tanks is highly possible. If these tanks are not addressed in an expeditious manner, their structural decay will continue and will intensify the threat of a catastrophic release. Sodium hydroxide is an extremely corrosive material with a pH of 14.

There is one tank outside of the building which contains 36,000 gallons of 92% sulfuric acid located approximately 30 yards downgradient of the five exterior tanks of sodium hydroxide. This tank has absolutely no secondary containment. The sulfuric acid tank is in worse structural condition than the sodium hydroxide tanks, and poses a serious threat of catastrophic release. Sulfuric acid is an extremely corrosive material with a pH of 1. It is highly incompatible with strong bases, such as sodium hydroxide. The catastrophic release of sodium hydroxide from one of the up-gradient tanks could trigger the simultaneous release of sulfuric acid. The reaction which would occur between the massive volumes of incompatible materials would be intense.

There is one exterior tank which contains 374,000 gallons of zinc sludge. This tank is an open-top tank in poor condition with a reported record of leaking at least once in the past. The total volume of liquid or sludge material contained in exterior tanks at the Site, including fuel oil, is estimated at 1,091,250 gallons. Most of these tanks are in poor condition or extremely poor condition.

In addition to the exterior tanks located onsite, there are numerous interior tanks containing unknown amounts of sodium hydroxide, sulfuric acid, and other hazardous substances. Many of these tanks are located in structurally unstable portions of the building. Some are located on the upper floors of the building, and others are supported by steel beams. The collapse of these tanks or surrounding structural members or structures could result in the catastrophic release of unknown amounts of hazardous substances. There has been one documented roof collapse in the building and countless minor structural collapses since 1989. As the building decays further, collapses will become more frequent and larger in magnitude.

Carbon disulfide, PCBs, sodium hydroxide, sulfuric acid and zinc are considered hazardous substances under Section 101(14) of CERCLA and are listed as hazardous substances at 40 C.F.R. § 302.4.

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### C. National Priorities List Status

The Avtex Site was proposed for inclusion on the CERCLA National Priorities List (NPL) in October of 1984. On or about June 11, 1986, it was placed on the NPL. As discussed, emergency removal activities have been taken at the Site since September 1989. On March 29, 1993, the Region's Remedial program negotiated and initiated a Remedial Investigation/Feasibility Study (RI/FS) in an Administrative Order on Consent with FMC Corporation to perform a portion of a Site-wide RI/FS. The first phase of the RI/FS field work has been in progress since mid-June, 1993, and is currently ongoing.

### D. State and Local Authorities' Roles

The U.S. EPA is the lead agency at this Site. However, the Commonwealth of Virginia is participating in the remedial cost share process.

## III. THREATS TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT

Conditions at the Avtex Fiber Site continue to meet the criteria for removal actions in the NCP Section 300.415

- A. 300.415(b)(2)(i) "Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants."

The exterior tanks containing extremely strong acids and bases, as well as zinc sludges and fuel oil, are in poor structural condition. In the event of the failure of one of these tanks as described above, these contaminants would be released into the environment where they could potentially threaten the health or welfare of the nearby residents, animals, or the food chain. These contaminants, if released, could discharge into the Shenandoah River and subsequently affect sensitive ecosystems or the human population downstream. The Shenandoah is a tributary to the Potomac River which serves as a water source for the District of Columbia as well as other communities downstream of the Site.

Although 24-hour Site security is in place, trespassing has been documented on several occasions. These trespassers may be unaware of the hazards posed by the Site, and it is possible that these individuals could be exposed to hazardous substances located onsite if these threats are not addressed.

- B. 300.414(b)(2)(ii) "The availability of other appropriate federal or state response mechanisms to respond to the release."

Virginia has previously stated that it does not possess the

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resources to mitigate conditions at the Site and has requested EPA assistance in this matter.

- C. 300.415(B)(2)(iii) "Hazardous substances or pollutants or contaminants in drums, barrels, tanks or other bulk storage containers, that may pose a threat of release."

Seven storage tanks of large capacity containing acid, sodium hydroxide and zinc sludges have been identified onsite in various degrees of deterioration. One of these tanks initiated an emergency response to mitigate a release after developing a leak. A temporary patch was installed on this tank and is to remain in place until the material is removed. As has been described above, the continued decay of these exterior tanks will increase the probability of a catastrophic release of hazardous substances into the environment. It is imperative that these tanks be rectified

- D. 300.415(B)(2)(v) "Weather conditions that may cause hazardous substances, pollutants or contaminants to migrate or be released."

Process lines, tanks, containers, and structural members throughout the facility are subject to seasonal temperature fluctuations, rain water infiltration, humidity changes, lightning, and various other weather-driven conditions. The potential for a release from process lines or tanks or containers as a result of weather-related stress is probable, and the effects of the natural decay of steel and wooden structural members of the building is evident. Structural collapses are numerous, and it is highly possible that the collapse of currently standing portions of the building or structures would rupture process lines, tanks, or containers and initiate the release of hazardous substances into the environment.

In addition, as has been described above, the exterior tanks of the facility are currently in extremely poor condition. There is no secondary containment around several of the larger tanks, and these tanks will become progressively worse. It has also been observed that after a rain event, significant concentrations of hydrogen sulfide accumulate in low-lying areas of the facility. Hydrogen sulfide is a chemical asphyxiant.

The roof of the main building onsite is primarily flat. Snow and ice accumulations on the roof have been documented in excess of two feet at times. This roof was originally engineered to withstand the weight of four feet of snow. As the building's

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structural integrity becomes compromised through deterioration, the probability of a roof collapse increases as a result of heavy snowfall or ice build-up. Such a roof collapse could cause the rupture of process lines or tanks and cause the release of hazardous substances into the environment.

E. 300.415(B)(2)(vi) "Threat of fire or explosion."

The 22 carbon disulfide impoundments contain carbon disulfide sludge and rain water. Carbon disulfide is a flammable gas, and there is a potential for carbon disulfide to be liberated from these basins.

In addition, at least one fire has been reported onsite since the Removal Action has begun. Electrical storms or other occurrences could potentially initiate a fire in or around the building. Flammable liquids, oils, and gasses are located throughout the facility, including over 293,210 gallons of fuel oil stored in exterior tanks onsite.

#### IV. ENDANGERMENT DETERMINATION

Actual or threatened releases of hazardous substances from this Site, if not addressed by implementing the response actions outlined in this additional funding request, may present an imminent and substantial endangerment to the public health, welfare, or the environment.

#### V. EXEMPTION FROM STATUTORY LIMITS

The Avtex Fibers Site continues to meet the Consistency Exemption criterion in Section 104(c)(1)(C) of CERCLA, 42 U.S.C. §9604(c)(1)(C), to exceed the \$2 million and 12-month statutory limits for Removal Actions:

##### Consistency Exemption

CERCLA § 104(c)(1)(C): "Continued response action is otherwise appropriate and consistent with the remedial action to be taken."

The continued removal actions for which funding is being requested will be consistent with future remedial actions which may be undertaken at the Site. A Remedial Project Manager (RPM) has been assigned to coordinate remedial activities at the Site. The OSC is in continuing contact with the RPM. The Removal Actions for which funding is being requested are appropriate to avoid a future threat and are consistent with the anticipated remedial actions to be taken at this Site.

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## **VI. PROPOSED ACTIONS AND COSTS**

### **A. Proposed Actions**

The new proposed Removal Actions are as follows:

1. Perform final decommissioning of the carbon disulfide impoundments by removing the sludges and rain water, demolishing the impoundments, and capping the impoundments to prevent further rain water build-up, and backfilling with clean soil.
2. Remove and/or treat (i.e., neutralize) the contents of the seven tanks of acid, sodium hydroxide, and zinc sludge and determine proper disposal options.
3. Transport and properly dispose of all hazardous materials from this action that cannot be treated to ARAR levels or permanently contained onsite.

At this time, the entire project has run longer than the statutory 12-month limit for Removal Actions. However, an exemption from the 12-month statutory limits was approved on November 22, 1991.

### **B. Contribution To Remedial Performance**

The proposed Removal Action is consistent with proposed Remedial Actions for the Site and with Remedial Actions taken at similar sites in Region III.

### **C. Compliance With ARARs**

The proposed Removal Action will comply with applicable and relevant and appropriate environmental and health requirements (ARARs), to the extent practicable considering the exigencies of the situation. ARARs were identified in the September 28, 1990 Record of Decision.

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**D. Estimated Costs (Contains contingency of 15%)**

|                      | <u>Current<br/>Ceiling</u> | <u>Cost to date</u> | <u>Proposed Ceiling</u> |
|----------------------|----------------------------|---------------------|-------------------------|
| <b>Extramural</b>    |                            |                     |                         |
| ERCs (Rmvl)          | \$ 7,718,000               | \$ 7,525,483        | \$11,390,515            |
| ERCs (Remed)         | 8,758,840                  | 6,293,321           | 8,758,840               |
| TAT (Rmvl)           | 1,607,000                  | 1,296,274           | 2,607,000               |
| TAT (Remed)          | 1,057,600                  | 600,056             | 1,057,600               |
| USCG (Rmvl)          | <u>197,515</u>             | <u>197,515</u>      | <u>197,515</u>          |
| <b>Subtotal</b>      | <b>\$19,338,955</b>        | <b>\$15,912,649</b> | <b>\$24,011,470</b>     |
| <b>Intramural</b>    |                            |                     |                         |
| Direct (Rmvl)        | \$ 310,000                 | \$ 239,003          | \$ 419,161              |
| Direct (Remed)       | 159,520                    | 110,000             | 159,520                 |
| Indirect (Rmvl)      | 662,500                    | 521,856             | 880,824                 |
| Indirect (Remed)     | <u>285,000</u>             | <u>164,424</u>      | <u>285,000</u>          |
| <b>Subtotal</b>      | <b>\$ 1,417,020</b>        | <b>\$ 1,033,283</b> | <b>\$ 1,744,505</b>     |
| <b>TOTAL PROJECT</b> | <b>\$20,755,975</b>        | <b>\$16,947,932</b> | <b>\$25,755,975</b>     |

**VII. EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN**

Without removal of the contamination sources which are described in this Memorandum, there is the threat of fire and explosion along with the possibility of leaking tanks or containers which may cause the materials to migrate into sensitive areas. It is EPA'S decision at this time that it is appropriate to abate the threats presented by the facilities described in II B above. The remaining threats of releases at the Site are the subject of a Remedial Investigation/Feasibility Study [RI/FS] which is currently under way at the Site.

**VIII. OUTSTANDING POLICY ISSUES**

There are no outstanding policy issues pertaining to the Avtex Fibers Site.

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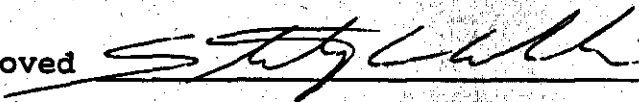
**IX. ENFORCEMENT STATUS**

The EPA Removal Enforcement Section has been provided with all background information available to pursue any and all Enforcement Actions pertaining to the Avtex Fibers Site.

**X. RECOMMENDATION**

Because conditions at the Avtex Fibers Site continue to meet the criteria for Removal Actions as set forth in Sections 300.414 300.415 of the NCP, 40 C.F.R. § 300.414, and the statutory criteria for a Consistency Exemption as set forth in Section 104(c) of CERCLA, 42 U.S.C. § 9604(c), I recommend your approval of the proposed Project Ceiling increase of \$5,000,000, of which \$3,672,515 are Extramural Costs. This will increase the Project Ceiling to \$25,755,975. You may indicate your approval or disapproval by signing below.

Approved



Date

2/14/94

Disapproved

Date

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